CLAIMS

In the claims, please make the changes indicated in the following pages.

Claims 1 (canceled)

Claim 2 (currently amended): The process of claim [1] 6 wherein the fluorine atmosphere comprises SiF_4.

Claim 3 (original): The process of claim 2 wherein the fluorine atmosphere is greater than 10% SiF_4 .

Claims 4 and 5 (canceled)

Claim 6 (new): Process for the manufacture of optical fibers comprising:

preparing an optical fiber preform,

heating the preform to the softening temperature, and

drawing an optical fiber from the optical fiber preform

wherein the optical fiber preform is produced by steps including:

preparing a porous silica body of silica particles,

heating the porous silica body in an atmosphere of a fluorine compound to produce a fluorine doped preform region with a refractive index change Δn,

the invention characterized in that:

the atmosphere has a partial pressure of fluorine compound that is at least five times greater than the equilibrium partial pressure p

expressed by $\Delta n \sim p^{\frac{1}{4}}$

the temperature of the atmosphere is

maintained below 1000 ^{O}C.

Claim 7 (new) The process of claim 6 including the additional step of heating the porous silica body at a temperature greater than 1300 ^{O}C, in an atmosphere devoid of fluorine, to react the fluorine compound and consolidate the porous silica body into the preform.

Claim 8 (new) A process for the manufacture of an optical fiber preform comprising:

preparing a porous silica body of silica particles,

heating the porous silica body in an atmosphere

of a fluorine compound to produce a fluorine doped preform region with a refractive index change Δn,

the invention characterized in that:

the atmosphere has a partial pressure of fluorine compound that is at least five times greater than the equilibrium partial pressure p expressed

$p^{\frac{1}{4}}$

the temperature of the atmosphere is maintained below 1000 ^{O}C.

Claim 9 (new): The process of claim 8 including the additional step of heating the porous silica body at a temperature greater than 1300 ^{O}C, in an atmosphere devoid of fluorine, to react the fluorine compound and consolidate the porous silica body into the preform.

Claim 10 (new): The process of claim 9 wherein the fluorine atmosphere comprises SiF_4.

Claim 11 (new): The process of claim 10 wherein the fluorine atmosphere is greater than 10% SiF_4 .